Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Amendment of Several Parts
of the Commission's Rules
to Cause More Efficient Use
of Radio Spectrum by Adding
Improved Antenna Technology
Into 2-Way Radio Equations

RM-_____

PETITION FOR RULEMAKING

1) I am an Amateur Radio Operator with a Technician Class License. My call sign is WA1OCK. I hold a General Radio Telephone License with Ship Radar endorsement. I was employed as an operations and maintenance engineer in the Television Broadcast industry for over thirteen years. I have been employed as a chief engineer for both AM and FM Broadcast Stations. I have done radio service for land mobile radio users. I am concerned about the future of the land mobile radio service and the safety of the public servants who put their life on the line every day.

2) I cannot sit back and silently listen over and over again to the repeated cries of the Land Mobile Radio Service (LMRS) begging to the tune of: "I want more megahertz". Docket 87-14 was just one chapter in the monthly publication titled: "Unnecessary Reallocations" that is published by the Commission. While there may possibly be some needs to reallocate amateur radio spectrum, many are necessary only because the LMRS has refused to open their eyelids. The Commission has not ordered the land mobile radio users to see and utilize what the radio amateurs and broadcasters have known for decades.

3) Directional antennas are very good items nearly ignored by LMRS users and the Commission. For years amateurs have enjoyed the really nifty technical benefits of specialized highly directional antennas. I do not understand why land mobile users rarely use them.

4) Signals from New York Fire Department on 154.400 MHz consistently cause interference problems to the local Springfield Fire Department. Springfield recently did a radio hardware upgrade and in the process may be learning that even with multiple sites and voting receivers the system works far less than ideal because of distant on-channel users.

5) There is no need for New York Fire Department to be putting any signal into Springfield, Massachusetts on 154.400 MHz if current radio technology is adequately utilized. NYC could quite effectively use a transmitter northwest of the city and a directional antenna with beam tilt and cause unneeded radiation to be out over the Atlantic Ocean.

6) Apparently, there are no service rules pertaining to the effective radiated power (ERP) or the transmitter antenna height above average terrain (HAAT). The Commission should consider service rules relating to ERP, HAAT, antenna radiation patterns, and electrical beam tilt.

7) A recent incident within the City of Springfield is again pointing to the reality that handheld radios are not always able to communicate with fire dispatch because signals two-hundred miles away are stronger than the ones from this city. The radio propagation characteristics were not in any way enhanced at the time. Propagation was rather poor that evening. If it was good, I would have been aggressively chasing weak-signal DX on the VHF amateur bands.

8) Many communities can really gain if the Commission requires that coastal communities use directional antennas on fixed transmitters. With careful site placement and directional antennas designed with adequate front-to-back and front-to-side ratios along with mechanical beam tilt, coastal communities can put all of their unneeded radio energy out over open waters and allow better spectrum efficiency.

9) All communities can really gain by service rules requiring both electrical and mechanical beam tilt on fixed location transmitting antennas. Fairly high gain antennas with small vertical beam widths should be required. The beam tilt should be such that it puts the primary lobe at ground level at the edges of the community. Transmit sites for inland communities should be in the center of the community.

10) There are hidden benefits if coastal radio systems use these better antenna systems. They could provide a cost-free radio beacon service to boaters indicating which direction to travel to reach land.

11) While thoughts expressed in this PETITION are related to VHF and only one user type, they should be applied to all land mobile users.

12) The Commission should consider service rules changes on more than LMRS users and consider all segments of commercial radio spectrum.

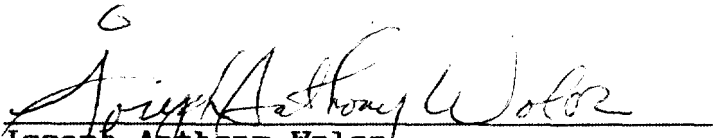
13) Even cellular can gain from directional antennas by having one mountaintop site serve more than one area. Switching a user between pencil-width directional beams may work quite effectively. Carefully placed deaf receivers combined with simple logic hardware may help the cellular industry deal with current between-cell switching problems.

14) The Commission should also consider adding cellular style signal sensing, voting, and switching concepts to the trunking radio systems.

15) We must use all available technology to improve the effectiveness and efficiency of the Land Mobile Service. I PETITION FOR RULEMAKING and encourage the Commission to quickly and constructively address these technical issues to improve use of commercial radio spectrum.

Thank you for your consideration in this matter.

Respectfully submitted on this, the 22nd day of August, 1990



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